60p

THE Unexplained

MYSTERIES OF MIND SPACE & TIME

Freaks of nature
UFO vehicle interference
Cosmic joke revisited
Summoning spirits
The goat, the angel and the fish

112

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THE Unexplained
MYSTERIES OF MIND SPACE & TIME

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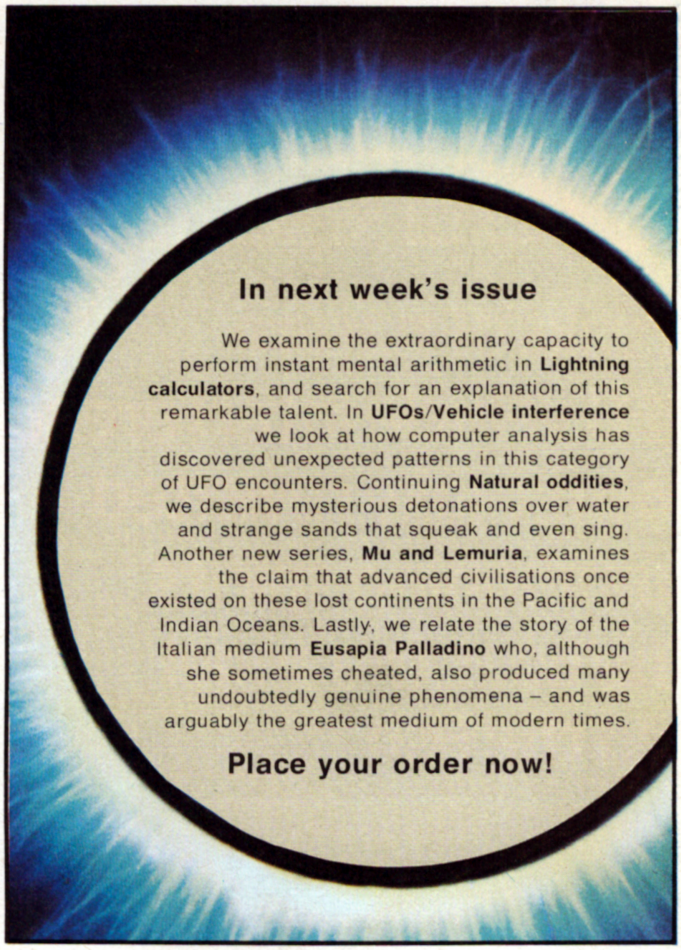

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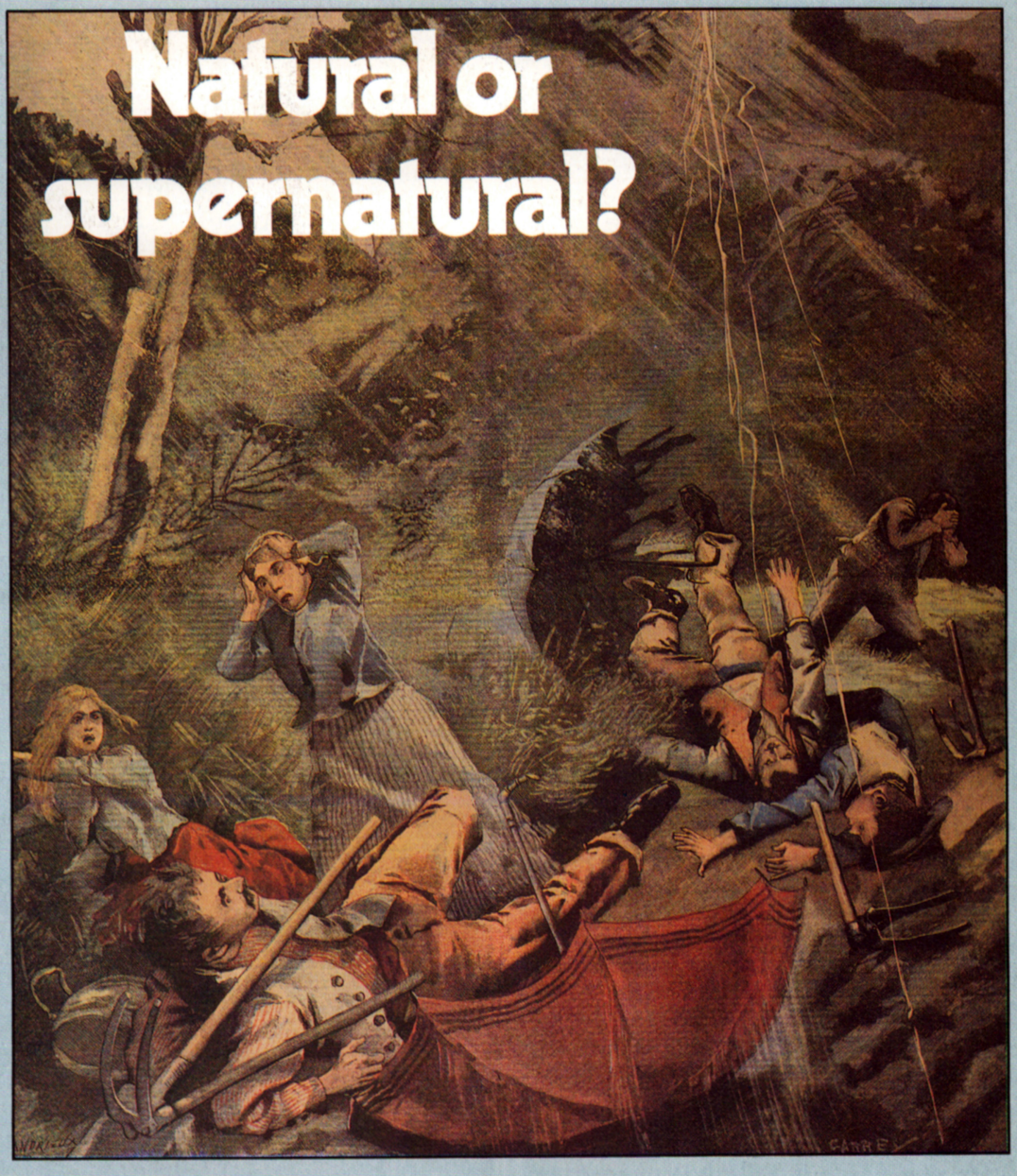
Natural or supernatural?



Lightning strikes a family in rural France – and leaves two dead, as illustrated in *Le Petit Parisien* literary supplement of 1901. There are many instances of bizarre behaviour by lightning, which sometimes seems to choose whom or what it will strike

Nature produces a host of oddities that scientists cannot – or do not try to – explain. OLIVIA MACDOUGALL surveys some of these mystifying phenomena, from pictures made by lightning to shapes in the clouds

THE WORLD ABOUNDS in phenomena that are observed by hundreds of people, but that lack scientific explanations or are simply ignored by scientists. Among them are such obvious anomalies as UFOs and apparitions. But there are many more that, although they do not embarrass the scientific community in the same way, are equally extraordinary. One conspicuous example is ball lightning (see page 218) which, despite consistent reports by reliable witnesses, was not accepted by scientists as a genuine phenomenon until late in the 19th century.

In fact, the entire phenomenon of lightning is surrounded by mystery. Any school textbook will confirm that lightning is simply the rapid discharge of a large amount of electric charge to Earth. Generally the charge builds up in clouds, and usually the lightning takes the shortest possible path to the Earth's surface. Occasionally, however, lightning is seen to strike *upwards*. Are we to assume that somewhere in the sky there exists an electrical terminal that is at times a stronger attraction than the Earth for both conventional lightning and slow, aurora-like discharges? Does the effectiveness of this high altitude terminal vary with solar activity and possibly with meteor influx rates?

Sometimes, too, lightning strikes horizontally. Horizontal lightning passing between clouds is not difficult to explain – the clouds merely hold different concentrations of electrical charge, and the lightning passes from the one with the higher potential to that with the lower potential. But what of horizontal lightning that will travel great distances, apparently to strike some particular object?

An extraordinary example of this occurred on 16 July 1873 in Hereford, England,

laboratory and the presence of a competent scientist when such an event occurs is a matter of chance. One aspect of lightning's apparent discernment in what it strikes has, however, been thoroughly researched. Studies carried out in 1898 and 1907 reveal that oaks are the trees most likely to be hit by lightning, while beeches are the least likely – so it is apparently safer to shelter from a thunderstorm under a beech tree. Unfortunately, the studies do not reveal why this should be the case.

The subject of 'lightning pictures' – images allegedly 'photographed' onto living bodies or objects struck by lightning – was the cause of much scientific controversy during the 19th century. Indeed, the study of the subject was given its own name – 'keranography'. The issue of the reality of such pictures is still undecided, however.

The first reliable report of the phenomenon was made by no less a person than the American diplomat and scientist Benjamin Franklin. In 1786 he wrote to the Meteorological Society of London about an incident that he remembered from 20 years before. A man who was standing close to a tree when it was struck by lightning was 'very much

and was reported by one W. Clement Ley to *Symons's Monthly Meteorological Magazine*. After a showery morning, stormclouds began to appear; around 10 a.m. a large cumulus stormcloud arose in the west-south-west and, in a clear blue sky, travelled steadily north-eastwards. A bolt of lightning emerged and, in Mr Ley's words, 'the electric fluid travelled near the earth over high ground covered with trees, buildings, &c; avoided All Saints' and St Peter's spires, very near which it must have passed, and singled out a house in the more eastern part of the city.' To add to the unlikeliness of the event, this house was actually *lower* than the surrounding houses, and should have been less vulnerable to lightning.

An example of similarly bizarre selection by lightning was reported in a 1902 issue of *Nature*. When a house in Jefferson, Iowa, USA, was struck by lightning, it was found that every *other* plate in a pile of 12 plates in the house was broken. Was it because the intense electric field of the atmosphere was somehow intensified in every other plate, or was it the result of some purely mechanical action? The editors found themselves unable to comment.

Can lightning 'choose' what it will strike? The above examples demonstrate the difficulty of studying this kind of phenomenon scientifically. As was the case with ball lightning, reports are numerous enough to warrant being taken seriously – but the phenomena are not easily reproducible in the

Above: Zuñi Indians of New Mexico performing the rain dance. The ritual of cloud-summoning – in this case carried out by a group – has long been considered an important power of shamans and magicians

The dendritic, or branching, pattern (top left) made in a block of acrylic by the electrical discharge from a generator, compared with a lightning pattern (left). Images of trees made by lightning on living objects have been explained by scientists as being no more than dendritic patterns. Can this explain those cases in which the 'lightning pictures' are of crosses or non-branching objects?

surprised to perceive on his breast a *fac-simile* of that *tree*'. Similar incidents had been reported much earlier: in 1596, during a summer storm, lightning 'fell' into the cathedral at Wells, Somerset. A report of this appeared in *Adversaria*, a book by the scholar Isaac Casaubon, who died in 1614: 'The wonderful part was this, which afterwards was taken notice of by many, that the marks of a cross were found to be imprinted on the bodies of those then at divine service.'

The classic explanation of lightning pictures is that the images arise from the well-known dendritic – or branching – patterns that electrical discharges are known to produce on the surfaces of many materials. This may explain the cases where the images are of trees, but does it explain the cross images in the Wells case? Can it apply to the following extraordinary story, told by one James Shaw at a meeting of the Meteorological Society held on 24 March 1857:

> About 4 miles [7 kilometres] from the city of Bath, near the village of Coombe Hay, was . . . an extensive wood of hazel and detached oak-trees. In the centre of this wood was a field of about 50 yards [45 metres] square, in which were six sheep, all of which were struck dead by lightning. When the skins were taken from the animals, a *fac-simile* of a portion of the surrounding scenery was visible on the inner surface of each skin. . . .
>
> I remember that it caused a great sensation at the time . . . the small field and its surrounding wood were so familiar to me and my schoolfellows, that when the skins were shown to us, we at once identified the local scenery. . . .

Dendritic patterns? It seems unlikely. And what of a case in which there was no lightning involved? In February 1971 a farmer named Jasper Barratt shot a rabbit near his home in Jefferson, South Carolina, USA. While his wife was preparing the rabbit for dinner, she noticed on the skinned flesh of one of the front forelegs the image of a woman's face, about an inch (2.5 centimetres) across. The witnesses described it as a fashionable face of the 1920s – curly hair, long eyelashes, and a rosebud mouth. What had caused the pattern?

Patterns in the mind

It could be argued that the picture was caused by random pigmentation and that it was the minds of the witnesses themselves that formed the blotches into a recognisable pattern. The capacity of the human mind to *impose* order on what it sees is well-known. This capacity is widely utilised in psychiatric 'ink blot' tests, in which the subject is asked to interpret an image made by the totally random process of folding a piece of paper over wet ink. Whether the same process of pattern-making by the mind applies to the Barrett case or not, many would hold that it does apply when witnesses see strangely shaped clouds. Yet the importance historically assigned to such strange clouds seems to argue that there may be something more to them.

Cloud-summoning has always been counted among the powers of magicians and shamans. On one level, cloud-summoning was merely rain-making, for clouds meant rain. But often, as among the ancient

Chinese, the North American Indians and some of the practitioners of 'animal magnetism' of the 19th century, the shapes of the clouds summoned were equally important.

One day in 1801 Clement Hofbauer, later canonised by the Roman Catholic Church, was at prayer before the altar of St Joseph in a Warsaw church. As Zsolt Aradi relates in his *Book of miracles* (1957):

> Hundreds of people saw a cloud forming above the altar, then enveloping the figure of the saint, who disappeared from their sight. In his place they saw a celestial vision. A woman of great beauty, with radiant features, appeared and smiled at the worshippers. . . .

On 3 October 1843 one Charles Cooper, labouring in a field near Warwick, England, heard a rumbling in the sky. He looked up to see a strange cloud below which hovered three 'perfectly white' figures, calling to him with 'loud and mournful' noises. Cooper assumed they were angels. Other witnesses, working in a field some 6 miles (9 kilometres) away, agreed that they had also seen the remarkable cloud reported by Cooper, although not all of them saw the 'angels'.

'Spectacular and disquieting'

Let us leave the subject with a report of a sighting of a strange cloud that is at least as remarkable as those described above, and considerably better substantiated. It shows that clouds may assume very strange shapes under entirely natural conditions.

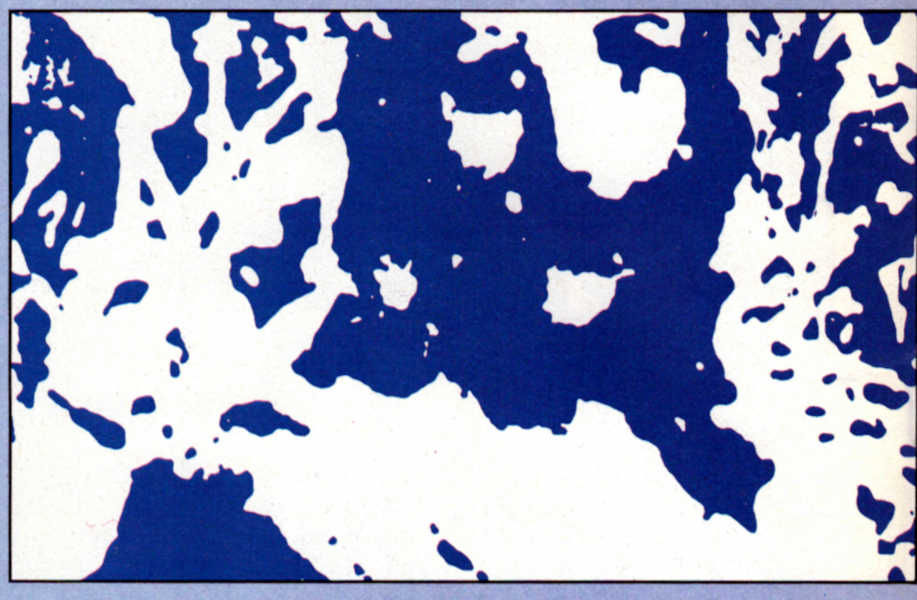
On 22 March 1870 the barque *Lady of the Lake* was cruising in the mid Atlantic close to the equator when, around 7 p.m., a 'curious-shaped cloud' appeared towards the south-south-east. The sky was blue with patches of cirro-cumulus cloud. This particular cloud was circular and shaped like a wheel with four spokes, one much thicker than the rest. From the centre protruded a fifth spoke, 'broader and more distinct than the others, with a curved end'. The cloud was light grey in colour and had a tail 'similar to that of a comet'. It was in sight for around 45 minutes.

Reports of such ring-shaped clouds, often rotating, are not uncommon and probably have a logical scientific explanation based on the action of atmospheric vortices, or whirlwind effects. But the sight of one is a spectacular and disquieting experience.

Another phenomenon that occurs at sea and is believed to be entirely natural is that of oceanic phosphorescence. Ships that sail the Indian Ocean, particularly around the Persian Gulf, often encounter dazzlingly luminous waters. An anonymous report in issue 36 of the *Monthly Weather Review* of 1908 told of a 'remarkable marine phenomenon' observed by the SS *Dover* as it steamed from Mobile, Alabama, to Tampa, Florida, USA. Some 35 miles (56 kilometres) from Mobile, around 7 p.m., the ship's crew suddenly found themselves in water glowing with alternate blue and green light, the colours 'being so brilliant that the vessel was lighted up as if she were covered with arc lights with coloured globes'.

Half a mile (800 metres) further on, the ship ran into a second streak of light the same width of the ship. The light was bright enough to read by. As the captain testified: 'I grabbed a paper, and the finest print that I could find was easily discernible.'

Perhaps a still more remarkable version of the same phenomena was reported by Captain W. Rutherford of the SS *Stanvac Bangkok* on a voyage from the Pacific Ocean islands of Fiji to Indonesia on 27 September 1959. Around midnight, the vessel was passing through a fleet of fishing boats, and the captain and the officer on watch were keeping a sharp lookout for these small boats through binoculars. They noticed white caps forming on the surrounding waves, which made them think the wind must be freshening; but the steady breeze on their faces told them this was not so. Then flashing beams appeared in the water, and the officer on watch thought the fishing boats must be using flashlights. The beams became more intense. They were absolutely parallel beams of light about 8 feet (2.5 metres) wide and they came towards the boat, passing under the prow at intervals of about half a second. Captain Rutherford described it as being like a pedestrian standing still on a 'huge zebra crossing' and seeing it pass underneath.



The countenance divine

Simulacra is the term given to the shadowy likenesses of natural objects that can often be seen in fire, water, clouds, or the damp and mouldy patches on walls, floors or other surfaces. One of the most common simulacra is the likeness of Christ's face. Some of these are, perhaps, more a testimony to people's capacity to see what they wish to see than cases of truly anomalous phenomena.

The *Houston Post* of 23 April 1977, for example, reported that a certain church in Shamokin, Pennsylvania, USA, had become a place of pilgrimage as the result of the appearance on the altar of an image of the face of Christ. Many of the people who went to see the phenomenon, however, found nothing but an ordinary altar cloth – and photographs taken at the time show nothing unusual.

A more bizarre example was recorded in the *International Herald Tribune* of 25 July 1978. One Maria Rubio, who lived in a farm hamlet in southern New Mexico, had been rolling out a tortilla – a kind of cornmeal flat bread – when she noticed that the dough contained a face. It looked like the face of Christ. What made the event the more remarkable was that this tortilla did not deteriorate after four or five days, as most do. The local people regarded the tortilla as a 'miracle' and their priest consented to give it his blessing, but the Archbishop of Santa Fe feared the start of a cult and advised caution.

One of the best-known of the Christ simulacra is alleged to have appeared as shadows in the snow (above left). It was once widely circulated by the media and is impressive, but of dubious provenance. The popular version of its origin is that someone took a photograph of the snow to use up a roll of film, and recognised the image of Christ only after the film was developed. Some stories say that the photograph was taken by a 12-year-old girl, others that it was made by some Californians to record an unusual snowfall. Perhaps the most poetic version has it that in 1938 a Norwegian woman prayed to God to send her proof of his existence, that she was divinely inspired to take a random photograph in her garden, and that this picture resulted.

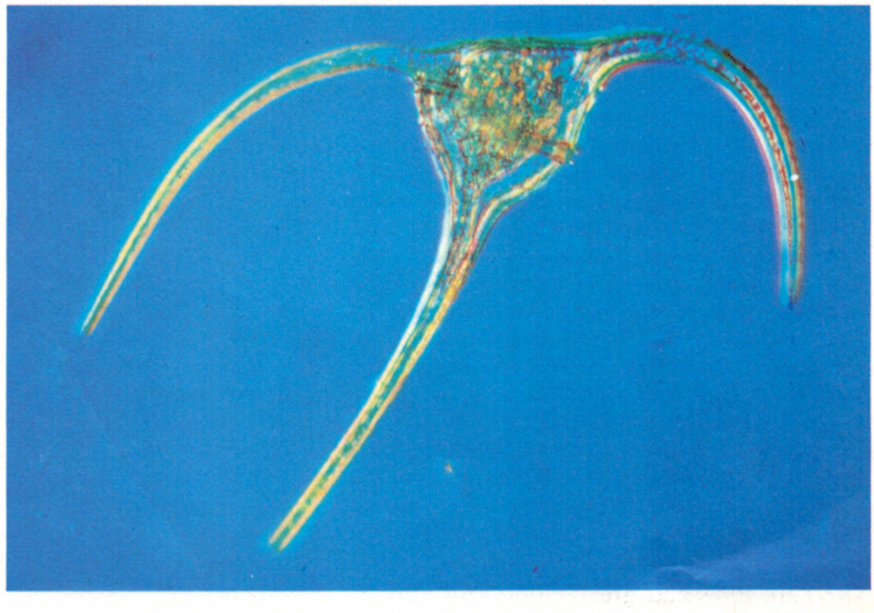
Another famous 'face of Christ' appeared as a cloud formation. It was allegedly taken by a serviceman in the US Air Force during the Korean War. The photographer did not notice the image when he took the picture, of American and Communist aeroplanes in combat.

These examples have in common an almost complete lack of supporting evidence, making a rational evaluation of the pictures impossible. There is no explanation of prevailing weather conditions at the time, for instance, or of any other relevant factors. Nonetheless, the images themselves are so compelling to most people that any explanation in terms of purely natural, random phenomena is bound to seem inadequate.

Then there was an alteration in the phenomenon. The pattern of the beams changed into giant radiating wheels slowly turning about a centre, first to starboard and then to port, and rotating anticlockwise and clockwise respectively. The beams then became parallel again and appeared to be following the exact course of the ship before gradually fading from sight. Finally, all that was left was countless rings of light around 2 feet (60 centimetres) wide and 6 feet (2 metres) apart, flashing rhythmically. Captain Rutherford commented that it reminded him of 'a treeful of glow-worms'. Although the light beams appeared to be above the surface of the water, Captain Rutherford believed that this was an illusion, and that the light actually originated beneath the surface of the water. He also reported a curious instinct he felt about the phenomenon: 'The ship seemed to be in the centre of the disturbance and at one time I had the feeling that she was actually causing it, and that if I reduced speed or altered course, I would alter the pattern accordingly.'

Remarkable as this phenomenon seems, it has a perfectly natural cause: the glow is the result of the luminescence of countless tiny marine organisms, as a bucket lowered into one of these phosphorescent seas will show. But what of the extraordinarily precise geometrical nature of the displays? Are we to assume that the marine creatures are putting on a show of 'formation dancing' for our benefit? This can hardly be the case. One must assume, instead, that the creatures are influenced by forces – seismic waves, the passage of the ship's wake, or something altogether more subtle – that cause them to react collectively in this beautiful and spectacular way.

On page 2254: mysterious detonations over water; sands that squeak or sing



The *Noctiluca*, a genus of the dinoflagellates. Its name means 'night light', and in large numbers this marine animal is said to cast enough light to read by

Although the practice of ritual magic declined towards the end of the 17th century it was by no means abandoned. FRANCIS KING explains how the emphasis changed from conjuring up spirits to harnessing hidden forces

Symbols, signs and ceremonies

THE 200 YEARS from 1480 to 1680 marked the high tide of concern with the type of ritual magic taught in the grimoires (see page 2201). After the latter date there seems to have been a general decline of interest in occult ceremony and by 1800 practitioners of magic rites were few and far between. Nevertheless, a few isolated individuals continued to experiment with the methods they had learned from printed and manuscript grimoires – sometimes with surprising and unfortunate results. Typical of these was Thomas Parkes of Bristol, who died soon after the year 1690 and whose occult misadventures were recorded in manuscript by the Reverend Arthur Bedford, a clergyman who knew Parkes well.

By trade Parkes was a gunsmith, but he was also 'well skilled in the mathematical studies', in astronomy, and in astrology. By the latter art he would cast horoscopes for his friends and acquaintances. The prophecies he derived from these often proved accurate, but, nevertheless, Parkes found astrology an unsatisfactory science, for 'there was nothing in it which tended to mathematical demonstration'.

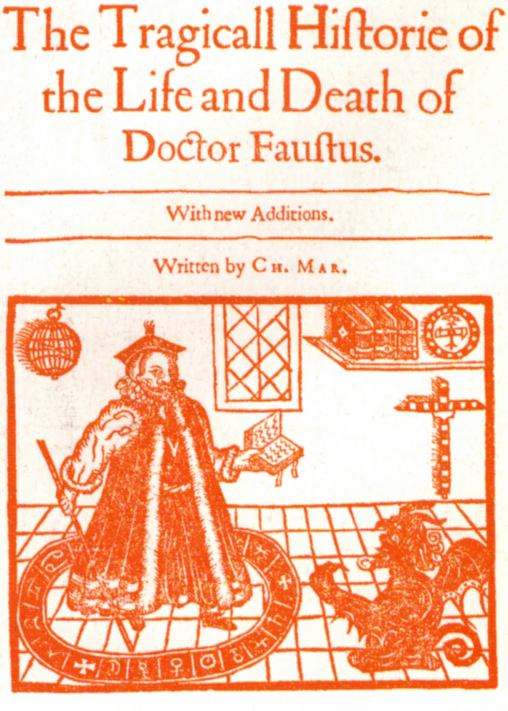
One day the Reverend Bedford, at the time the curate of Bristol's Temple parish, was approached by Parkes with a theological question. Was it lawful for a Christian, he asked, to raise spirits to visible appearance and converse with them? It was not, answered the clergyman.

Parkes then admitted that, using the processes outlined in a grimoire, the *Fourth book of Agrippa*, he had been doing that very thing. He would go, he said, in the dead of night to a causeway where he drew a circle with consecrated chalk. Then, standing within the circle, 'which no spirit had power to enter', he would invoke the spirits – and they would duly appear. These manifested themselves:

> in the shape of little girls, about a foot and a half [46 centimetres] high, and played about the circle. At first he was affrighted, but after some small acquaintance this antipathy in nature wore off, and he became pleased with their company . . . they spoke with a shrill voice, like an ancient woman.

At first the Rev. Bedford doubted Parkes's sanity but, after the latter had demonstrated mathematically the astronomical projection of a sphere, in order to prove himself free 'of the least tincture of madness', he felt compelled to accept the truth of the story. Nevertheless, he refused Parkes's offer to take him on one of his nocturnal expeditions and sternly advised the abandonment of ritual magic.

Up to the end of the 17th century necromancy relied heavily on rituals laid down in the grimoires, the medieval textbooks of magic. The magician stood in a circle inscribed with names and symbols designed to protect him from evil demons. He brandished his magic wand and chanted an incantation, hoping a spirit would appear to give him wealth, power or wisdom. But things could go badly wrong, as in the case of Thomas Parkes (above), whose conjurations produced terrifying supernatural creatures he could not control, or Dr Faustus (right), who was persuaded to sell his eternal soul to the Devil



Some three months or so later Parkes once again approached the clergyman, saying he wished he had taken the latter's advice, 'for he thought he had done that which would cost him his life'. He had decided, he said, to acquire a familiar spirit – an otherworldly being that would be continually at his service – by following the instructions given in his grimoire.

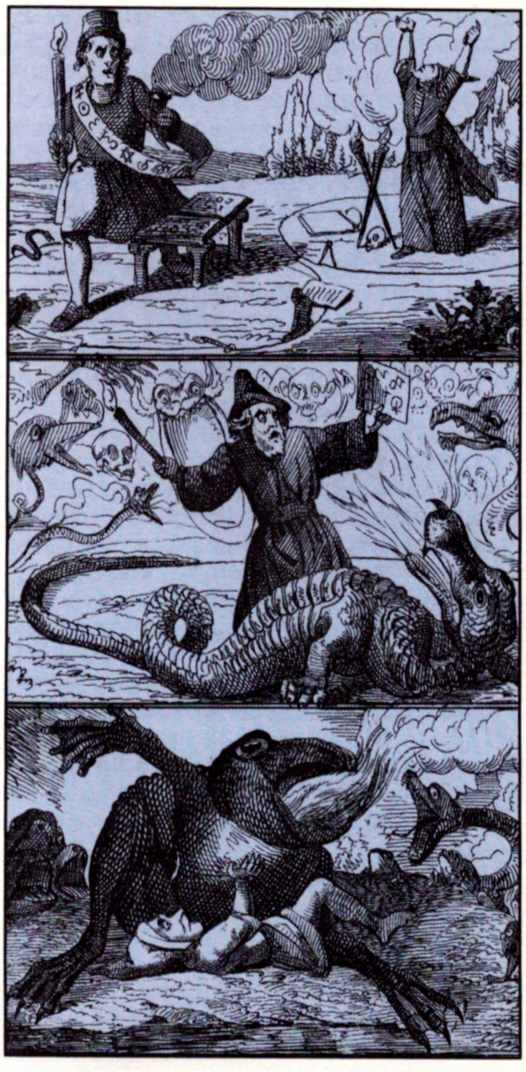
His first step had been to prepare a parchment book; he then went to a crossroads and invoked the spirit that was to be his familiar. The spirit duly appeared, said Parkes, and signed its name in the book. But then other, unwanted and uninvoked, spirits appeared, taking shapes – bears, lions, and serpents – that terrified the unhappy magician. His fears increased as he found it beyond his powers to control these supernatural creatures. Eventually the spirits vanished, leaving Parkes 'in a great sweat'. The rest of the story is best told in the words of the clergyman's manuscript:

> . . . from that time he was never well so long as he lived . . . he expressed a hearty repentance for, and detestation of, his sins; so that though these matters cost him his life, yet I have room to believe him happy in the other world.

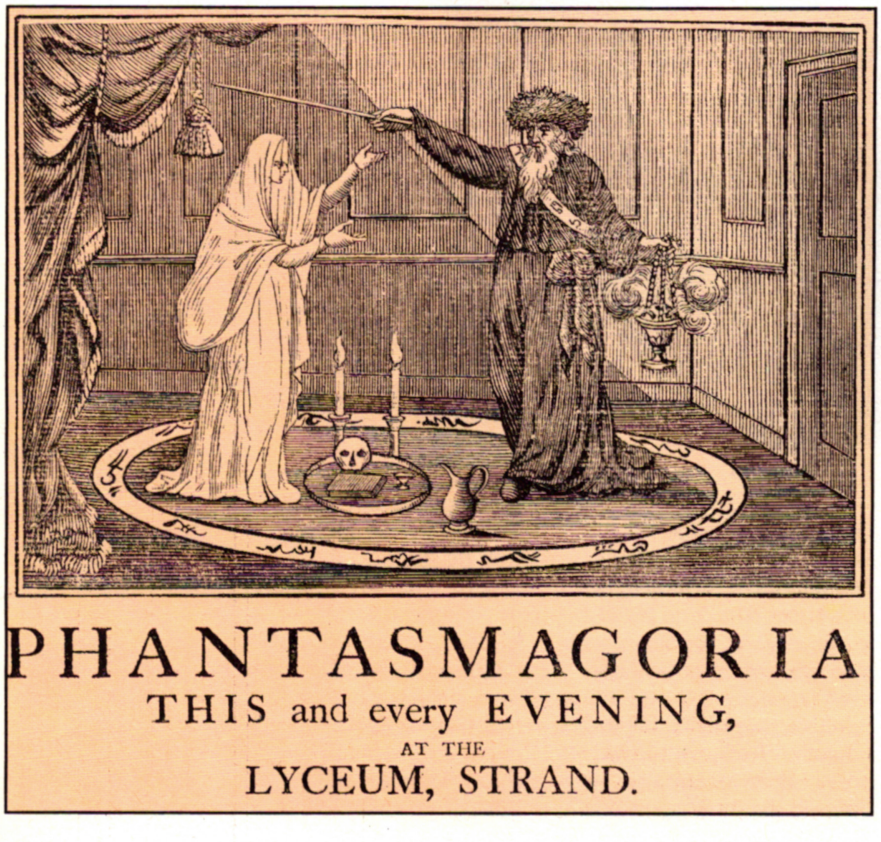
At the beginning of the 19th century there were signs of a small revival of interest in ritual magic. In 1801 Francis Barrett published a curious magical textbook entitled *The magus*, which, although Barrett claimed authorship, was largely a compilation derived from the grimoires. Barrett, who lived in what was then the London suburb of St Marylebone, was sufficiently confident of his own occult abilities to advertise for pupils, and to announce the setting up of a small 'esoteric academy', the purpose of which was 'to investigate the hidden treasures of Nature'. Barrett assured prospective pupils that they would learn the secrets of natural philosophy, natural magic, the mystical *qabalah*, chemistry, the art of making talismans (charms intended to ensure good fortune), hermetic philosophy, astrology and even the art of interpreting human character from facial appearance.

Whether Barrett was really competent to give practical instruction on all these subjects is uncertain, but according to the late Montague Summers, who wrote widely on witchcraft and black magic, some of Barrett's pupils 'advanced far upon the paths of transcendental wisdom'. One of them, added Montague Summers, was associated with the University of Cambridge, and the Barrett tradition was maintained – perhaps unbroken – at Cambridge, his occult teachings being handed on to promising subjects.

Throughout the course of the 19th century small groups of English occultists studied Barrett's book and experimented with ritual magic in accordance with his instructions. One such, for example, was



In succeeding generations attitudes to the traditional magician and his apparitions underwent a gradual change. By the 19th century magicians had become figures from a realm of imaginative fantasy, as shown in the illustrations (right) of necromancers and their conjurations found in *The monastery*, a German collection of tales of the occult published in 1846. Practitioners of magic rites might take to the stage, like master magician De Philipsthal (below), shown performing at the London Lyceum theatre in 1803



grouped around Frederick Hockley, a tea merchant who experimented with crystal gazing and amassed a large library of occult books and manuscripts, many of them dealing with ritual magic. By the 1870s interest in ritual magic had revived sufficiently for a London bookseller to find it worthwhile to issue a reprint of *The magus*, and at around the same time a tiny band of English students of the paranormal began to take an interest in the writings and ideas of the French occultist Eliphas Levi. Notable among these was Kenneth R.H. Mackenzie, an active freemason who claimed to have been admitted into a secret (allegedly Rosicrucian) society. Mackenzie spent much time in France and Germany, and was on terms of friendship with several of the earliest members of the Golden Dawn, an organisation that taught a system of ritual magic that is still employed by many occult practitioners today.

The Golden Dawn, a secret society whose members received successive initiations, conferred by ceremonies bearing some resemblance to those of freemasonry, was founded in 1888 by three masonic occultists. Of these the most notable was S.L. MacGregor Mathers who, while at first subservient to the other two – Dr William Wynn Westcott and Dr Robert Woodman – came to dominate them by the sheer strength of his flamboyant personality.

At first the Golden Dawn was no more than a quasi-masonic society and the techniques of ritual magic were not taught to its members. Nor, indeed, was any occult teaching imparted to them save what was to be found in easily accessible books. In spite of this, newly admitted members were assured that 'the Order of the Golden Dawn, of which you have now become a member, can show you the way to much secret knowledge and spiritual progress, it can . . . lead . . . to . . . True Wisdom and Perfect Happiness.'

In actuality members were far from happy and began to grumble. They wanted to practise the occult arts, particularly ritual magic, rather than just talk about them.

Spiritual supermen

In 1892 Mathers decided to meet their wishes, producing a large and constantly growing body of instructional material that outlined a complex and – so it is claimed by those who have experimented with it – effective system of ritual magic. According to Mathers and his wife Moina, sister of the French philosopher Henri Bergson, this system was derived from the 'Secret Chiefs', superhuman beings of the same variety as the Mahatmas (or Masters) whom Madame Blavatsky claimed to represent (see page 2061). Mathers said he had rarely met these beings in their physical bodies, but had done so on occasion, the appointments with them being made 'astrally' – presumably they either appeared to him in dreams, as disembodied spirits, or perhaps he received messages telepathically from them.

The meetings, when they did take place, exhausted Mathers. After they were over he felt he had been in contact with a 'terrible force', found such difficulty in breathing that he compared it to being half-strangled by the fumes of ether, and on some occasions suffered violent bleeding from his nose, mouth and ears.

There is no reason to think that Mathers invented all this – nor is there any reason to believe it to have been the literal truth. According to the poet W.B. Yeats, for many years a member of the Golden Dawn and on terms of friendship with Mathers, the latter was quite unable to distinguish fantasy from reality. Mathers believed, said Yeats, so fervently in angels, demons and Secret Chiefs, and his mind created such powerful images of them, that he became convinced that he saw and held conversation with them.

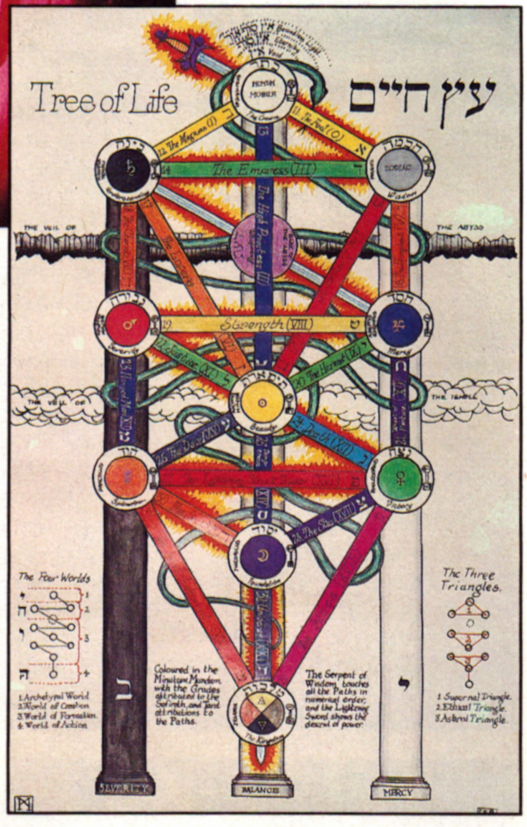
But whether Mathers's Masters were real or imaginary, there is no doubt that the system of magical practice attributed to their teachings is intellectually coherent and, in its way, impressive. The theories behind the techniques of ritual magic taught are not only more fully developed and better expressed than they are in the writings of Eliphas Levi, but the practice of the art is taught in a much

Above right: S.L. MacGregor Mathers in the ceremonial robes of the Order of the Golden Dawn, the late 19th-century occult society of which he was head. The revival of interest in magic was sparked off in 1801 by the publication of *The magus*, a textbook of occult practices by Francis Barrett (right)

Left: a sample page from Barrett's magical textbook *The magus, or celestial influencer*, showing a table of the days of the week with their governing angels and associated planets and signs. Beneath it appears a spread from the 'Book of Spirits', giving an invocation to Cassiel, the chief spirit

Left: a typical modern Golden Dawn initiation ceremony. Originally the society required that as a novice's knowledge of the occult increased he should pass through successive initiations based on the progression of the soul up the Tree of Life (below)

Below left: the top of the magic wand belonging to Aleister Crowley ('the Beast'), representing the head of Janus topped by a triple flame



simpler way than in the grimoires – no ritual sacrifices of virgin rams at the dark of the Moon, for example.

The Golden Dawn initiate who had reached the stage at which he or she received access to Mathers's instructional material began by making a set of magical implements. These, mostly made from wood, cardboard and coloured paper, included a 'Lotus Wand', signifying the 12 signs of the zodiac and the triumph of spirit over matter, a ceremonial cup – this was usually a wine glass decorated with mystic symbols – a wooden disc, symbolic of matter, and a sword, emblem of the strength and power of Mars. After manufacture the implements were ceremonially consecrated in accordance with rites supplied by Mathers.

The magician then began to devise his own ceremonies on the basis of his occult knowledge. Sometimes these were comparatively simple. Thus, for example, when a certain J.W. Brodie-Innes came to believe (on no very good grounds) that a 'vampirising entity' was obsessing himself and his wife he burned incense on a coal from his fire and drew a pentagram in the air with his right hand while resonantly chanting 'the Name of Power Adonai ha-Aretz'. At once there materialised before him 'a vague blot', rather like a scrap of London fog. The blot became more dense and formed itself into a terrifying apparition, a foul shape between that of 'a big bellied toad and a malicious ape'. Using the visualisation process outlined in one of Mathers's manuscripts the magician astrally projected – that is to say he visualised something so strongly that it was almost perceptible to his physical sight – a glowing ball of fiery force against the obsessing entity. There was 'a slight shock, a foul smell, a momentary dimness, and then the thing was gone'.

Power of symbols

Rather more elaborate rituals – those, for example, for raising spirits and the 'making of an astral shroud of darkness' (that is, obtaining invisibility) – were also undertaken. The basic form of these was taken from the grimoires, but the ceremonies were enriched by the incorporation into them of much additional material derived from the symbol system of correspondences that Mathers claimed to have derived from his teachers. A snake, for example, was said to correspond to both the god and the planet Mercury; so, if a Golden Dawn magician were evoking spirits whose nature was mercurial, he might incorporate snake fat into the candles employed in the ceremony.

The Golden Dawn eventually collapsed into a number of competing schisms. Personality differences in time destroyed even these, but the ritual magic of the Golden Dawn survived. Aleister Crowley incorporated whole sections of it into his 'magick' (see page 2081). From his writings, and even more from those of his one-time secretary, Dr F.I. Regardie, anyone can learn enough about the system to experiment cautiously with it. At the present day, in both the UK and North America, groups and isolated individuals practising Golden Dawn magic are to be found in almost every large city.

But, it has been suggested by some students of the matter, it is not only occultists who have used ritual magic in modern times. Politicians, pop-singers and many others, it is said, may be unconsciously practising this strange art.

Ritual magic is used today for many purposes – some sinister. See page 2278

Sublime and ridiculous

The frequency of hilarious coincidences leads naturally to the idea that they are perpetrated by a cosmic prankster. But, as BOB RICKARD suggests, cosmic jokes may go beyond humour; as Zen Buddhism teaches, laughter and enlightenment are very close

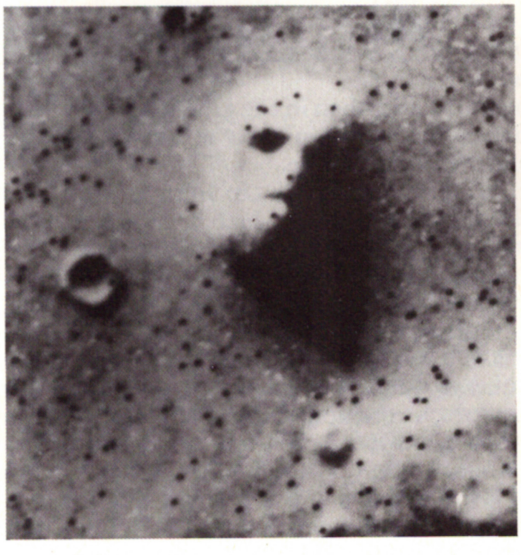
FEW OF US have not felt at times that our lives are manipulated by forces beyond our control and comprehension, especially when the most trivial events can take on a mysterious significance of their own. Consider the case of Essex policeman Peter Moscardi. In 1967 the telephone number of his police station was changed to 40116. To a friend he inadvertently gave a wrong number, 40166. Several days later, patrolling an industrial area with a colleague, he investigated a factory. It was late at night, the door was open, and a light burned inside, but the building was empty. While Moscardi was in the office the telephone rang – it was his friend. Moscardi looked down at the telephone – and found that the number was the one he had mistakenly given his friend. Later they learned that the manager had forgotten to lock up the factory, something that had never happened before.

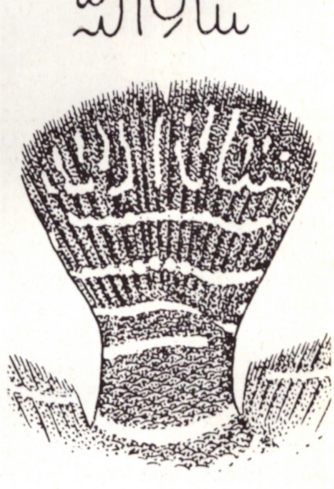
When faced with incidents of such staggering improbability – and most of us can cite similar personal experiences – the word 'coincidence' seems feeble and dismissive. It explains nothing. We cling to such vague, but useful, notions as good or bad luck. But perhaps, it has been conjectured – and the idea is put forward only half in jest – these weird events are engineered by a mysterious cosmic joker, a sort of demented fairy godmother whose wand is a fool's slap-stick.

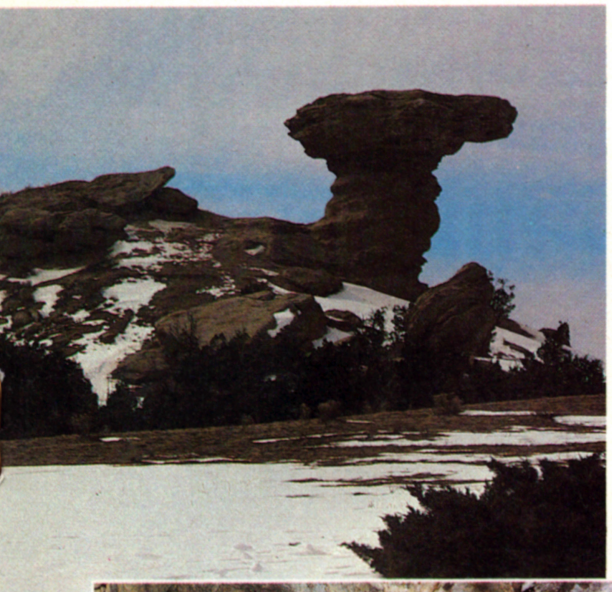
In the capricious and perverse world of the cosmic joker there are many varieties of prank. Perhaps the most spectacular of these are coincidences – especially those of name and number. The German psychologist Wilhelm Stekel spoke, in 1911, of 'the compulsion of the name'. We all know of examples – here is one from the *Daily Telegraph* of 3 June 1982: a duck farmer in Lincolnshire employs two people called Crow, four called Robbins, a Sparrow, a Gosling and a Dickie Bird. There are other varieties of 'the compulsion of the name' – such as the Canadian goose that crashed through the window of a house in Derby while the occupant was listening to a record by Frankie Laine, *Cry of the wild goose*.

The serious world of science, too, comes in for the prankster's ministrations. One thinks of noisy predictions by astronomers that have failed miserably – like the prediction that the comet Kohoutek, when it passed close to the Earth in 1973, would be a spectacle. In the event, it could hardly be seen with the naked eye. The pranks continue: in April 1982 a New Zealand government department cancelled an earthquake alert when it was found that the ominous seismograph readings they were receiving from remote stations were caused by excited wallabies hopping nearby; and a famous American university had to admit, to its great embarrassment, that for over a decade no one had noticed that one of its dinosaur skeletons was wearing the wrong head.

Left: among the strange and absurd natural phenomena chronicled in this 1958 issue of *Fate* magazine is a fall of frogs from the sky. It is events such as these that have prompted the suggestion that the world is governed by a cosmic joker. But what is the purpose behind his jokes?







Left: the Camel Rock, near Santa Fe in New Mexico, USA; and the apparent image of a human face in a stalactite cave in Wiehl near Cologne in West Germany (below). Such visual coincidences – unlikely images that occur naturally – are known as *simulacra*. Rock simulacra are found all over the world and, wherever they occur, have generally been subjects of veneration for centuries

There is a dark side to the cosmic joker, too. In *The book of heroic failures*, Stephen Pile tells the story of a farcical but tragic event that took place during the British firemen's strike of 1978. The army took over responsibility for firefighting operations, and on 14 January they rescued a cat that had become trapped up a tree. The old lady who owned the cat was overjoyed and invited them all in for tea. But, says Stephen Pile, 'Driving off later, with fond farewells completed, they ran over the cat and killed it.'

The victim of an improbable series of accidents, for example, can perhaps be forgiven for thinking he is the victim of a curse – or that 'Someone up there doesn't like me.' Most of us have just enough paranoia to feel 'got at', usually when we are depressed, but the feeling passes and our sense of humour puts it into perspective. In paranoid schizophrenia, however, these feelings get out of hand.

Far left: does the surface of Mars bear huge effigies of human figures? This photograph, taken by the Viking 1 Orbiter on 25 July 1976 from a distance of 1162 miles (1873 kilometres), shows a rocky outcrop 1 mile (1.6 kilometres) across

Left: the marks on the tail of the butterfly fish from Zanzibar read, in old Arabic, 'there is no God but Allah'. Fishermen allegedly threw these fish back into the sea out of respect for the legend on their tails

The yachtsman Donald Crowhurst, who ended his life tragically by drowning himself in 1969, had fallen into schizophrenia as his vessel drifted in mid Atlantic. Shortly before his suicide, he began to write a cynical parable in his ship's log. He felt our lives are manipulated by cosmic tricksters called 'chess-masters'. He believed that 'the explanation of our troubles is that cosmic beings are playing games with us':

> God and his son were playing together in the cosmos. . . . The game they were playing was called turning apes into gods. It was a jolly just game, and . . . it was played according to one simple rule, the apes were not allowed to know anything about gods.

A similar cynicism, but born of disillusionment rather than madness, has led to the conspiracy theory of human history, which holds that almost every civilisation has been instigated and manipulated by powerful and insidious organisations, usually secret, of bankers, religions, cults and secret societies. A space-age variation of this is Erich von Däniken's now discredited theory that human evolution is the product of regular intervention by space-travelling aliens (see page 1270). In Andrija Puharich's biography of Uri Geller, Geller claims that the source of his psychokinetic power is a group of super beings, deep in space, that have similarly manipulated human development. If this is true, however, one has to smile at the thought that the best these godlike machines can do is bend our cutlery!

The subjective connection

A significant number of keen minds have recognised what American psychologist Dr Jule Eisenbud has called 'subtle ordering tendencies or dispositions hidden in the very warp and woof of the universe'. The German philosopher Arthur Schopenhauer (1788–1860), whose ideas about the nature of the unconscious influenced Freud and Jung, believed that something more than mere physical causality influences men's lives; he called it 'the subjective connection'. The real significance of coincidences, he wrote in 1850, exists only in relation to the individuals who experience them. To others involved in the event, people for whom it has no significance, it passes unnoticed into the background of everyday life. 'The world is indeed comic,' wrote the master of Gothic horror, H.P. Lovecraft, 'but the joke is on mankind.'

The discussion of coincidences and their meaning has attracted the likes of Carl Gustav Jung, Paul Kammerer – a scientist engaged in pioneering work on the inheritance of acquired characteristics, who committed suicide when the results of his research with midwife toads were alleged to be rigged – Arthur Koestler and Sir Alister

Hardy, all of whom have concluded that the phenomena of coincidences are somehow beyond the usual chains of cause and effect in space and time. Some contemporary researchers go as far as to suggest that these synchronistic events – as Jung termed them – might actually be arranged in some mysterious way by the collective unconscious.

In describing the subjective nature of synchronistic experiences, many writers have used the familiar simile of life being like a film or a play or a novel directed or written by some mysterious power. Science fiction writer Larry Niven has used the imagery of mankind as puppets in the hands of alien puppet-masters in several of his books, including *Ringworld*. The real argument among those who explain life in this way is over the identity of the puppeteer, author or director: God, angels, demons, cosmic imps, conspirators, aliens – or ourselves? It is the last possibility that provides the most interesting debate.

Writing in *Psychic* magazine in October 1975, Jule Eisenbud encapsulated the proposition:

> Theoretically . . . there is nothing that would be beyond accomplishment by the most innocent-looking observer. . . . At most he would be doing unconsciously, and with no manifest effort, what a movie director goes to great pains to do on a conscious level, that is, deploying props, natural surroundings and events, and the wide capabilities of 'central casting' . . . with special effects as needed. Since all . . . behaviour on the part of the players would be rationalized, no one would be any the wiser.

We certainly control the 'reality' of our dreams in this way. The stumbling block of applying this idea to real life, however, is the difficult problem of just how 'the fate of one individual invariably fits the fate of another so that each is the hero of his own drama, while simultaneously figuring in a drama foreign to him,' as Schopenhauer put it. 'This is something that surpasses our powers of comprehension.'

Whatever the identity of the cosmic joker, he is breathtakingly skilful at juggling with everything at once. And he still manages to be boundlessly creative and magnificently audacious. Here is another link with the subconscious mind: action that is unerringly swift, perfectly timed and appropriate is the characteristic of that unselfconscious state shared by the somnambulists and the hypnotised, martial artists and meditators, saints and sages – and incidentally some children, madmen and drunks. They appear to have access to a primal, childlike, unconditioned state of mind – to the personal and collective unconscious – that has reached its perfect expression in Zen Buddhism with its celebration of the playful or comic spirit.

Top: the Death's Head hawk-moth carries the spine-chilling image of a human skull on its body. But what possible meaning can human remains have for the moth's predators?

Above: Donald Crowhurst, the yachtsman who died tragically in 1969 by drowning himself in mid Atlantic. He saw the cosmic joker as a cruel and sinister figure who amuses himself at the expense of human beings. As he wrote in his ship's log shortly before his suicide, he came to believe that 'the explanation of our troubles is that cosmic beings are playing games with us'

Deliberate absurdity

Of all philosophies, Zen Buddhism may be of the most help to us in coming to terms with the cosmic joker, because it appears to have mastered the phenomenology of absurdity. In his analysis of Chinese philosophy, *The Chinese mind* (1967), E.R. Hughes described Zen teachings as 'consciously and deliberately paradoxical, even with the intention of causing laughter, to make evident the incongruities of the human situation'. What else can one say of a school of thought that numbers among its masters the eighth-century Teng Yinfeng, who died standing on his head with the deliberate intention of turning conventional values upside down in the hope some people would take life less

Right: Zen Buddhist monks on the steps of a temple in Kyoto, Japan. Many of the teachings of Zen are designed to be paradoxical or amusing in order to provoke laughter. Laughter, the followers of Zen believe – whether it comes about through the abrupt release of tension or through the 'getting' of a joke – can lead to the 'sudden awakening' of enlightenment. The Dada movement in the visual arts achieves a similar effect in its use of outrageous or nonsensical images, as in the photo-montage *Santa conversazione* (left) by Max Ernst (1891–1976). In cosmic jokes is the Universe laughing at itself?

Right: the American jazz pianist Dave Brubeck. Jazz improvisation, like all musicianship, depends upon a subtle interplay between the conscious and unconscious minds – as does the appreciation of the cosmic joke

Left: the black side of the cosmic joker's humour is illustrated by a story related by Stephen Pile in his *The book of heroic failures*. During the 1978 firemen's strike in Britain the army, who had taken charge of firefighting services, were called out by an old lady whose cat had become trapped up a tree. After rescuing the cat, they were invited to tea by the overjoyed owner. But, as they left the house, they ran the cat over and killed it

seriously. The difference between a healthy appreciation of a cosmic joke and the paranoid reaction is that the former recognises its absurdity and delights in it, while the latter imbues it with a deadening seriousness.

As M. Conrad Hyers points out in *Zen and the comic spirit*, the child, the madman, the fool and the sage share a common ground in which they transcend the limits on behaviour and imagination accepted by the majority. The child has not yet learned to carve up the world into neat but arbitrary categories, nor is he governed by them; the madman cannot help himself as he confuses categories; the fool confuses categories deliberately, as do those great fools of art, the Dadaists and the surrealists; and the sage has gone beyond our need for categories and thus returns to the childlike state.

The Zen masters have always taught by exploiting the parallels between the instant in which we get the point of a joke, and the 'sudden awakening' of *satori* ('enlightenment'). Laughter is an explosive response to a situation that has suddenly been plunged into contradiction or reduced to absurdity, says Hyers, and it is this abrupt relief of tension that takes us by surprise, precipitating laughter in the 'getting' of a joke – and of illumination.

Whatever the ultimate origin of cosmic jokes, we certainly perceive them as an example of wit, and it seems reasonable to draw another parallel, this time between *koans* – the paradoxical riddles given to Zen students for meditation – and anomalous phenomena of any kind. The pranks of the cosmic joker (see page 1721), unexplained or inexplicable, like *koans*, challenge our presumptions and expectations, making us reflect on the mysteries of our existence. Ufology's leading scientist, the astronomer Dr J. Allen Hynek, characterised the UFO problem with its parade of absurd entities and their even stranger behaviour, preposterous names and seemingly impossible craft, as 'both shocking and paradoxical'. This is, of course, an excellent description of a *koan*.

Cosmic jokes are phenomenological riddles, specially formulated, perhaps, by our collective unconscious, for the enlightenment – and enjoyment – of those with eyes and minds open wide enough to perceive them. It is an exquisite irony that something so universal should come from the trivial. As that great Zen master of the West, W.C. Fields, said, 'It's a funny old world. You're lucky to get out of it alive.'

The goat, the angel and the fish

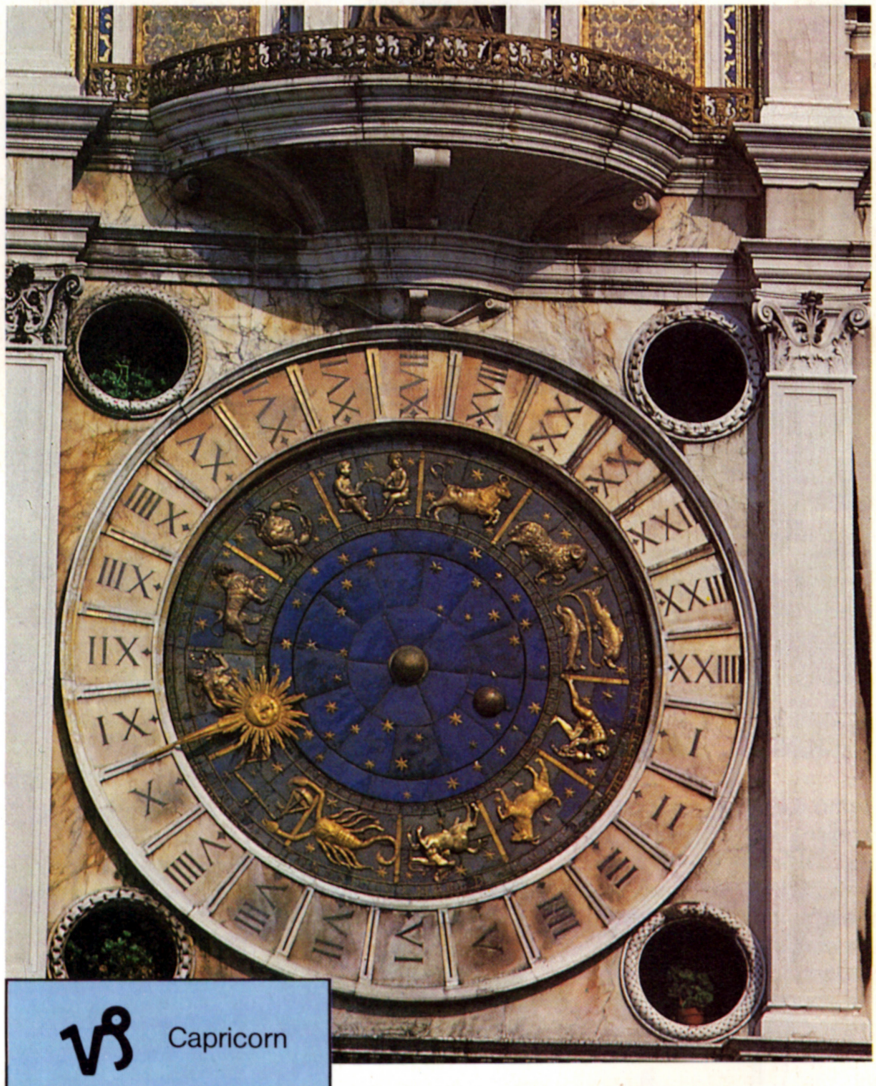
A fish representing Christ, and an angel representing St Matthew – these are what Pisces and Aquarius meant to medieval artists. FREDERICK GOODMAN discusses these signs, and the weirdest denizen of the zodiac – the fish-goat, Capricorn

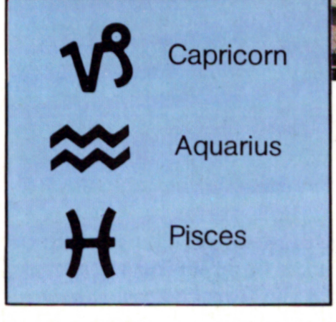
IN MODERN TIMES CAPRICORN sometimes has the image of a goat. But the traditional image, and still the most usual one, is that of a goat-fish. In the very earliest days, in Babylonian symbolism, Capricorn was a horned goat with a mermaid-like tail. The Greek astrological tradition gave a twist to the tail. Early medieval astrological manuscripts showed Capricorn in a form that was closer to the Babylonian original, but later on in medieval times the astrological tradition took up the Greek image. It is this image that appears in all the major representations of the zodiac in the French and Italian cathedrals and churches.

The 13th-century Italian zodiac in San Miniato al Monte, in Florence, for example, shows such an image. At Chartres, in France, the figure of Capricorn that appears over the northern door in the west front looks like a goat at first glance; but a serpentine curved tail emerges from beneath its body.

The conjunction of a goat and a fish is by no means an historical oddity, for it is replete with inner meaning. The curious union reflects the Capricornian personality. The astrological tradition insists that the Capricornian seeks to live in the light of day: he is like a mountain goat, forever striving to climb upwards. He is an admirer of excellence and he is ambitious, seeking always to be at the head of his profession.

The fish-tail, however, represents the element of fear in the Capricornian's nature. It represents the shoal in which the individual merges and loses his separate identity. The Capricornian's ambitious upward urgings are partly due to his desire to separate himself from the herd, from what he instinctively sees as mediocrity. He is constantly being threatened with submersion in the waters that are the natural medium of the fish. To differentiate himself from this the Capricornian's goat element seeks for separation and distinction.





Above: the modern symbols for the last three signs of the zodiac

Left: the figure of Capricorn from the zodiac carved in the abbey church at Vézelay, France. The extraordinary image of the fish-goat is as old as Babylonian astrology

The image of Capricorn is a parable on the struggle taking place in the life of civilised nations. At his present stage of evolution Man is striving to break away from the herd instinct (the fish tail) in which he submerges his own identity and personal striving in the general demands of the tribe.

The consequence of this break with age-old patterns is a sense of alienation and isolation; loneliness is the price one must pay for being distinctive and exclusive. It is no accident that the zodiac is often depicted

with the house of Capricorn at the very top, looking down upon all the rest. The fundamental problem of the Capricornian nature is that of the isolation characteristic of his cold ruling planet, Saturn.

It is interesting that in modern times the goat-fish image has sometimes been replaced by a goat image. It is as though the unconscious urges that determine the growth and change of symbols are seeing only the outward side of the Capricornian – his ambition, concern with status, and so on. When the fish-tail is ignored the essential loneliness and fear of the Capricornian is ignored.

It is difficult to be precise about the time when the simple goat image began to appear, but the figure preserved in a superb English zodiacal schema on the FitzJames Arch at

Merton College in Oxford is certainly a very early example. It was carved in 1497 – surprisingly early, for at that time scarcely any astrologer would have considered Capricorn as anything other than a goat-fish.

The symbol for Capricorn is little more than a vestigial drawing of the goat-fish; the 'v' part of the symbol represents the curved body, the terminal flourish represents the twisted tail. Interestingly, this symbol developed at about the same time that the simple goat figure was making its appearance as an alternative image, as though it were considered necessary for the symbol at least to express something of the Capricornian duality.

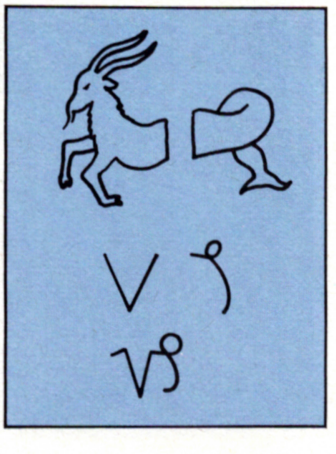
The next sign of the zodiac, Aquarius, is represented by the image of a man pouring water from a large jar. There is a modern

Above: Capricorn as a goat, carved in wood on the FitzJames Arch at Merton College, Oxford, and dating from 1497

Left: this figure of Capricorn appears in a zodiacal arrangement at Chartres Cathedral, France. The coiled tail betrays the fact that this is no mere goat, but rather a fish-goat

Far left: the clock face on the magnificent 15th-century clock tower in St Mark's Square, Venice, carries familiar versions of the zodiac images

Below: the symbol for Capricorn is a simplified version of the goat-fish



tendency, however, to make this figure a woman. The image appears originally to have been derived from the figure of the Nile god Hapi, who poured water from two jars. There was an even earlier Babylonian image of a star god who held a water pot but who also had the power to pour water from his own hands.

Angelic Aquarius

The Babylonian name for Aquarius may have meant either 'great star' or 'constellation of the great man'. This latter designation is interesting because when Aquarius was adapted as a Christian symbol in later times, its godlike yet human nature was preserved. When the four 'fixed' signs of the zodiac were adopted as symbols of the four Evangelists, Aquarius represented St Matthew. While he was the human symbol of the four, he nonetheless was depicted with wings, emphasising his angelic or otherwordly nature. The Christian figure holds a parchment scroll or a book, from which the spirit pours, in place of the water pot of the zodiacal figure.

With the passage of time the human element was emphasised at the expense of the godlike. While the constellation figure was usually represented as a winged man or woman, more popular imagery of the zodiac began to show Aquarius as a wingless human form, as though the ancient god had come down to Earth. The most impressive zodiacs in Europe present Aquarius without wings.

The twin zig-zag lines that symbolise Aquarius are generally regarded as a drawing of waves in water. Yet Aquarius, despite its name, is one of the air signs. Some modern astrologers claim that the drawing shows an

electric current but there is no historical foundation whatever for this claim.

There is little mystery about the symbol, for the zig-zag lines *are* derived from early medieval symbols that clearly represented the water flowing from the jar of Aquarius. The important element is the invisible one – the space between the two lines. In this we see the air that separates the two streams. It is shown as that which 'runs through the waters of life' – the cosmic air that permeates all living things. While Leo rules the heart and the blood, Aquarius rules the circulation. One of the functions of the circulation is to carry oxygen, itself derived from the air, to all parts of the body to nourish and purify them.

The earliest zodiacs incorporate the symbol of Pisces as a pair of fish swimming in opposite directions. However, in the Egyptian carving at Dandara, the two fish are pictured swimming in the same direction, their tails joined by a thread. It was the earlier of these two ancient images that was finally adopted by the medieval astronomers, so that all the standard zodiacs show two fish swimming in opposite directions with a connecting silver thread held firmly in their mouths.

Later interpretations of this figure suggest that the two represented the dual nature of Man: the spirit and the soul, visualised as pulling against each other. The spirit stays aloof from the physical realm of the earth and merely dips into it from time to time, therefore remaining free and unsullied by matter. The soul, on the other hand, is influenced by the life of desire, and even begins to be contaminated by the material world. The spirit aspires upwards and is free; the soul is pulled downwards by the earth. It is this opposition that is symbolised in the two fish. The cord that unites them is the 'silver cord', the link that unites spirit and soul during life but is sundered at death.

Above: St Matthew, the Christian Aquarius, here shown on a Danish altar as an angelic figure carrying a book rather than an urn

Above right: a superb carving of Aquarius from the FitzJames Arch, Oxford

Below: the fish, facing opposite ways, are said to symbolise spirit and soul. This window is at Chartres

This level of interpretation misses out the physical realm altogether: the two fish swim in the waters of the spirit and the soul, and the Piscean temperament is seen as dwelling naturally in the spiritual realm, finding fulfilment in spiritual beauty – in art and poetry. This is one reason why popular astrologers insist that the Piscean is a dreamy and spiritual person, often with a very tenuous grip on practical affairs.

The early Christians linked the symbol of a fish with Christ, and it appears frequently

Left: a dolphin, as conceived by the 15th-century artist, represents Pisces on the FitzJames Arch in Oxford

in early Christian images. The link with Christ was reinforced in the structure of the zodiac, for the sign of Pisces was directly opposite to the sign of Virgo – which from relatively early Christian times was associated with the Virgin Mary. Not surprisingly, a number of early Christian pictures and carvings showed a woman carrying, or even suckling, two fishes: such images belonged to the esoteric tradition that sought to connect pagan astrology with the Christian faith. There are examples on the 12th-century bronze doors of the church of San Zeno in Verona, in nothern Italy. There is another on a column at Chartres Cathedral.

In some cases the image of the twin fish was altered to that of a single fish. Very often this was the dolphin, which was the earliest symbol for Christ. The Pisces in the Merton Arch zodiac is just such a dolphin.

At Chartres there is also a single fish to represent Pisces – this time a carp. However, it also appears in a significant association with another sign. As described earlier, the main 'astrological' arch at Chartres is incomplete: only 10 zodiacal figures appear around the door. Gemini and Pisces appear beside the southern door as though their importance is being emphasised. Gemini is represented as two knights standing behind a single large shield. The shield points downwards, as it were, to the single fish below.

As we have already seen, the martial representation of Gemini symbolises the Knights Templar, who furnished the wealth to build the cathedral: the image of Pisces represents the Christ whom the Knights served. Thus this last of the zodiacal symbols takes its place in the astrological schema at Chartres – a schema that speaks of the hidden links with pagan astrology that were admitted by 'official' Christianity but were kept alive by artists and esoteric thinkers down the centuries.

Left: on the doors of the church of San Zeno, in Verona, Italy, Pisces is represented as two fish being suckled by a woman. This reflects the link between Pisces and Virgo, the signs directly opposed in the zodiac; and also the association of Pisces with Christ, and Virgo with the Virgin Mary

Right: Pisces, from the group of zodiac sculptures by Antelami, in the baptistry at Parma, Italy. The fish are associated with a man digging, who represents the appropriate month, February-March

Further reading

Fred Gettings, *The book of the zodiac*, Ward Lock 1972
Rupert Gleadow, *The origin of the zodiac*, Cape 1968
A.T. Mann, *The round art*, Dragon's World 1979

Left: a striking example of a vehicle interference encounter in northern Sweden. In September 1971 Sten Sture Ceder was driving at night when his car was suddenly surrounded by vertical beams of light, and refused to respond to the brakes. Then the driver found himself surrounded by a dense, almost tangible, mass of darkness that obscured the lights, and his headlights failed; finally he saw a dark object rise from a field and parallel his own course for a while

Below: Mark Rodeghier drew on the files of the Center for UFO Studies (CUFOS), in Evanston, Illinois, USA, in compiling the 441 cases in his catalogue

UFOs: breakdown report

Of the thousands of recorded UFO sightings, none are more baffling than those in which vehicles are affected. But, as MARK RODEGHIER reports, computer-aided analysis can throw new light on these phenomena

NEAR ÖJEBYN, NORTHERN SWEDEN, late at night on 20 September 1971, a car driver was terror-struck when he was suddenly surrounded by intense beams of light, shining down from the sky. They ringed the car at a distance of 300 to 600 feet (100 to 200 metres). The atmosphere between the car and the beams seemed extremely dark. The car's headlights were extinguished and the brakes failed. The pressure of the air seemed to increase. And then the beams suddenly vanished. The driver saw a black object rise from a field half a mile (1 kilometre) away. The car returned to its normal functioning, yet the dark object continued to parallel the car's motion for a minute or so. Then it disappeared to the south.

Ufologists call cases such as this, in which an electrical system is interfered with, an 'EM' (electromagnetic) case. This one is especially striking. But it combines several elements that are frequently linked in EM reports. When light beams occur in an EM case involving a car, there is an even chance that the UFO will 'chase' (or at least follow) the car – whereas, when there is no light beam, a chase is much less likely. In this case the UFO did indeed follow the car's motion briefly, though at some distance.

When either of these features – a light beam or a chase – is reported there is also a higher than average likelihood that the car will come under the control of the UFO – or that the driver will believe this is happening. The temporary failure of the brakes was just such a loss of control in this case.

In these circumstances it is not surprising to the knowledgeable ufologist that a physiological effect (the apparent increase in air pressure) should be reported by the driver. For this feature, too, is reported more often than not in association with any one of the three elements already mentioned. On the other hand, it is somewhat unusual that the 'chase' should take place with such a great distance between the car and the UFO: a separation of less than 100 feet (30 metres) is more usual.

When the details of UFO sightings are broken down into separate features – whether or not the UFO is metallic in appearance, whether or not it lands, whether or not any

sound is heard – it turns out that patterns can be found among them. For example, in the encounter that took place near Warneton, Belgium, on 7 January 1974 (see page 262), a businessman saw an object like a 'British Tommy's steel helmet', standing on three legs in a field. Disc-shaped objects tend to be metallic in appearance and tend to be associated with sounds. And indeed, the witness heard a 'modulated sound' a few moments later, as he witnessed the approach of two weird humanoids. And the shock he felt at the back of the head at the same time makes this an instance of another link among the UFO data: between metallic objects and the occurrence of physiological effects.

Computer detection

Such patterns could give us a clue to the nature of UFOs. To search for them one needs as large a compilation as possible of detailed UFO reports and a computer. The author carried out such an analysis on one type of UFO report – those in which a motor vehicle was seemingly affected electromagnetically by the presence of a UFO, as in the two cases already quoted. The effect might be that the radio, engine or headlights ceased to function, or that the vehicle apparently came under some form of external control.

This type of event is relatively rare among UFO reports – though 441 events finally formed the basis of the author's study. But the effect on the vehicle's functioning is dramatic and distinctive, and unlikely to be confounded with the UFO experience by chance. Such events are relatively 'solid' – second only to cases in which physical traces are left behind.

There is another reason why these cases may be especially suitable for study: it is likely that they are relatively 'uncontaminated' by knowledge of past cases. During most of the period covered by the study (1954 to 1979) few people knew that interference with cars' electrical systems could occur during 'flying saucer' sightings – and if they did, they were not aware of the details of such cases. These cases are the closest we can approach to incidents in which the witnesses do not know how such events are 'supposed' to go.

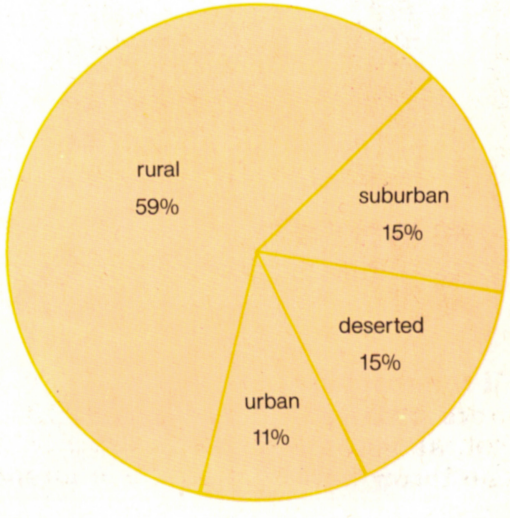
Many types of UFO sighting involving EM effects are excluded from the catalogue. Interference with ships, aeroplanes in flight, domestic radios, television sets and lights, widespread power failures – all these were excluded, so that valid comparisons of such factors as the places and durations of events and the numbers of witnesses could be made.

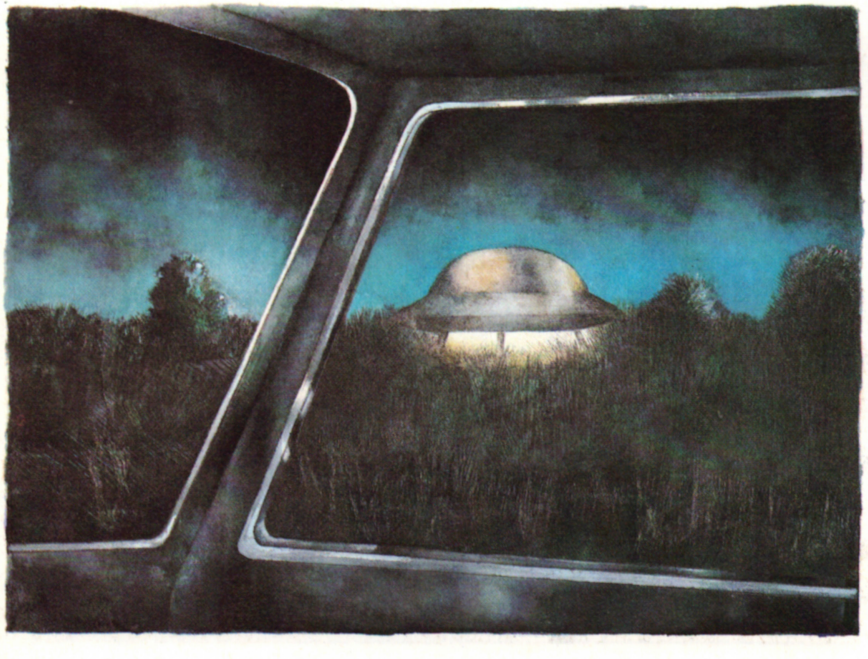
Even a cursory glance at the statistics of the cases in the catalogue reveals some odd features calling for explanation. For example, 74 per cent of the cases occur in rural or wilderness areas. (The same proportion typifies UFO events in general.) Yet here there are, of course, far fewer cars than in urban and suburban areas. Why do these EM cases favour thinly populated areas?

Below: a disc-shaped UFO photographed by a driver in Uruguay on 26 July 1977. The witness noticed the object while he was trying to get help with his car engine, which was malfunctioning – because of the UFO?

Below right: where vehicle interference reports occur. Surprisingly, most are in thinly populated areas, where there are few cars

Bottom: one night in 1974, on a Belgian country road, a car's engine, lights and radio cut out. Then the driver saw a UFO in a nearby field. Two weird beings scrutinised him, before taking off in the craft. The car then resumed its normal working. A second driver saw the incident





In about half of the EM events, only a single witness was involved. This is consistent with statistics on the number of occupants carried by cars. The US Department of Transportation reports that, at any moment, almost exactly half of the cars on American roads have only one occupant. So witnesses to EM events are not being 'selected' because they are alone *or* because they are in company. (Of course, words like 'selected' are used only figuratively; there is certainly no intention of implying that an intelligent agency is behind the EM phenomena.)

Some 70 per cent of the witnesses to events involving vehicle interference are male. In North America the ratio is 79 per cent. Since even today most drivers are men, this is not in itself surprising. But we can look more deeply to see whether there is a bias towards one sex or the other in the witnessing of these events.

The cases in the sample dated from 1962

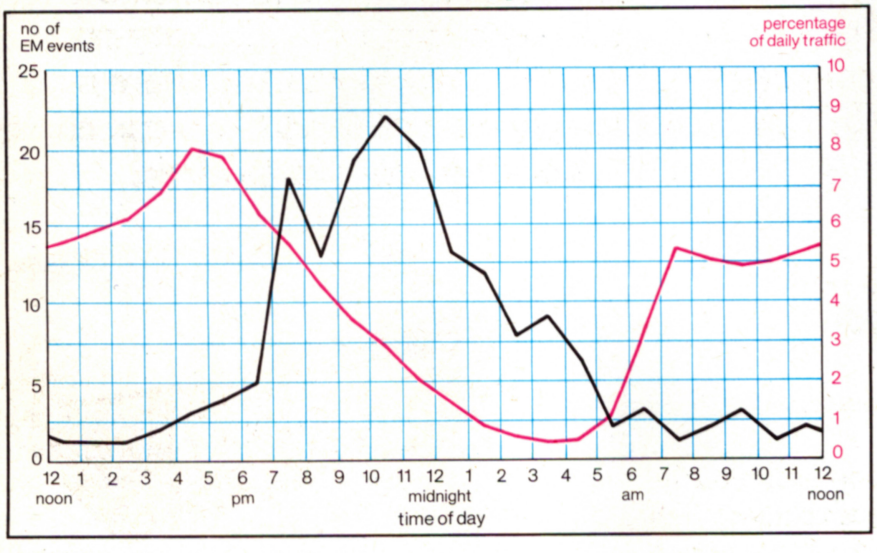
to 1979. The ratio of male to female drivers in the United States steadily declined over that period from about 5 to 1 to 2 to 1. The average ratio, 3.5 to 1 (78 per cent), is in excellent agreement with the ratio of the sexes involved in EM events: so witnesses are 'chosen' at random, as far as their sex is concerned.

A quarter of the reports in the catalogue included details of weather conditions at the time of the event. More than half of these speak of clear weather, affording good visibility. Only seven incidents occurred while rain or snow was falling. And not one occurred during a thunderstorm, making ball lightning (see page 218) a highly unlikely explanation for any of these events.

We can analyse the figures to study the variation in the numbers of reports throughout the day and night. The pattern for EM cases is the same as that for UFO cases in general. All around the world, very few events are reported during the daylight hours; in the evening the number of reports climbs, to peak around 9 to 10 p.m. It falls again, but rises to a secondary peak around 3 a.m.

Below: how EM events (UFO cases that involve electromagnetic disturbances, specifically of vehicles) vary with the time of day (black); and how traffic flow varies through the day (red). The EM peak is from 11 p.m. to midnight, when traffic is relatively low. The graphs are for North America but similar patterns apply to all countries

Bottom: the likelihood of an individual American driver being involved in an EM event at each hour of the day. The graph was obtained by combining the two above it. The probability rises to a well-defined peak between 3 and 4 a.m., when the roads are at their loneliest



It is curious that EM events should follow this pattern, since there are so many more vehicles on the road during the day than during the evening or night. To investigate the matter further, the cases for the United States and Canada were extracted from the total so that they could be compared with the detailed traffic statistics readily available for that area.

If we divide the number of North American EM reports in an hour-long period by the number of vehicles on the roads at that time, we come up with a number representing the relative *likelihood* that an individual driver will experience an EM effect during that period.

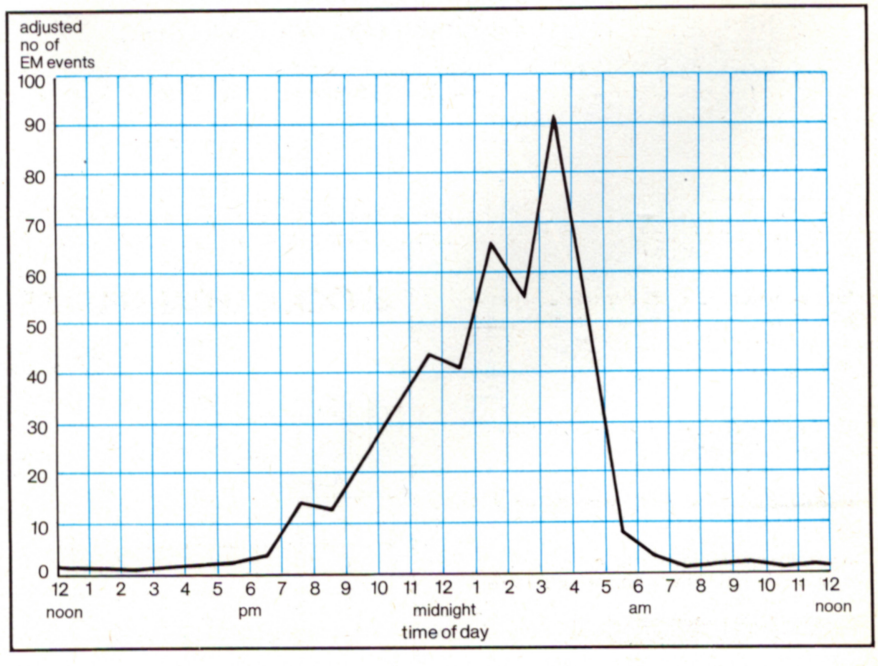
The resulting graph is dramatically different from the graph of 'raw' event numbers. It rises fairly smoothly during the evening and night to a peak at between 3 and 4 a.m. Then it drops sharply. The chance of an EM event occurring to a driver is about 130 times greater between 3 and 4 a.m. than between 2 and 3 p.m.

Can this throw any light on the causes of EM events? What can it be that rises to a peak of intensity in the small hours of the morning but is scarcely operative during the daylight hours?

A devotee of the 'nuts and bolts' theories of UFOs would be forced to speculate that the activity of alien spacecraft – specifically, whatever activity it is that interferes with the electrical systems of vehicles – rises to a peak at that time. Though there are fewer vehicles around at that time, they have a greater chance of falling foul of the aliens' activities. Somebody who took the diametrically opposed view that UFO sightings are wholly subjective would explain the sightings by pointing out that the human mind is most likely to play tricks in the middle of the night (especially in deserts and lonely countryside, where most EM events occur). So this finding cannot distinguish between *these* theories. But it does cast doubt on some others.

For example, Michael Persinger has suggested that most EM events are caused by piezoelectric effects – the generation of electrical fields by stresses in the rocks in the Earth's crust. But there seems no reason to expect that such stresses – caused both by internal geological events and the gravitational interactions of the Sun, Moon and Earth – should occur anything but randomly throughout the 24 hours. It is not yet possible to make the delicate measurements needed to check this; until it does become possible the piezoelectric theory seems to be in conflict with the early morning peaking of EM events.

On page 2258: the statistics hint at an unknown natural phenomenon among EM events



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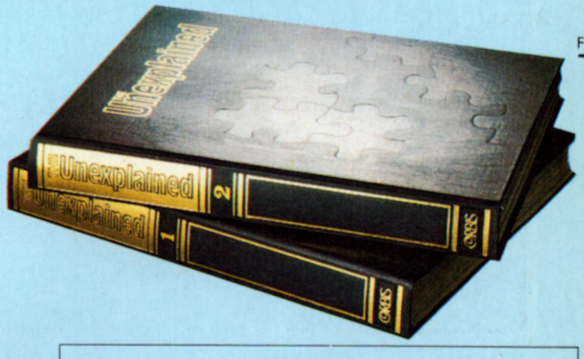

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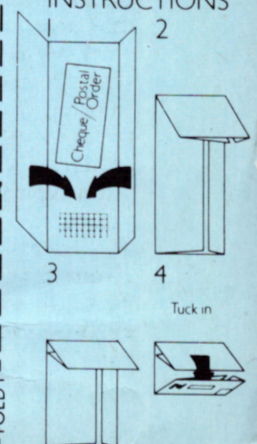

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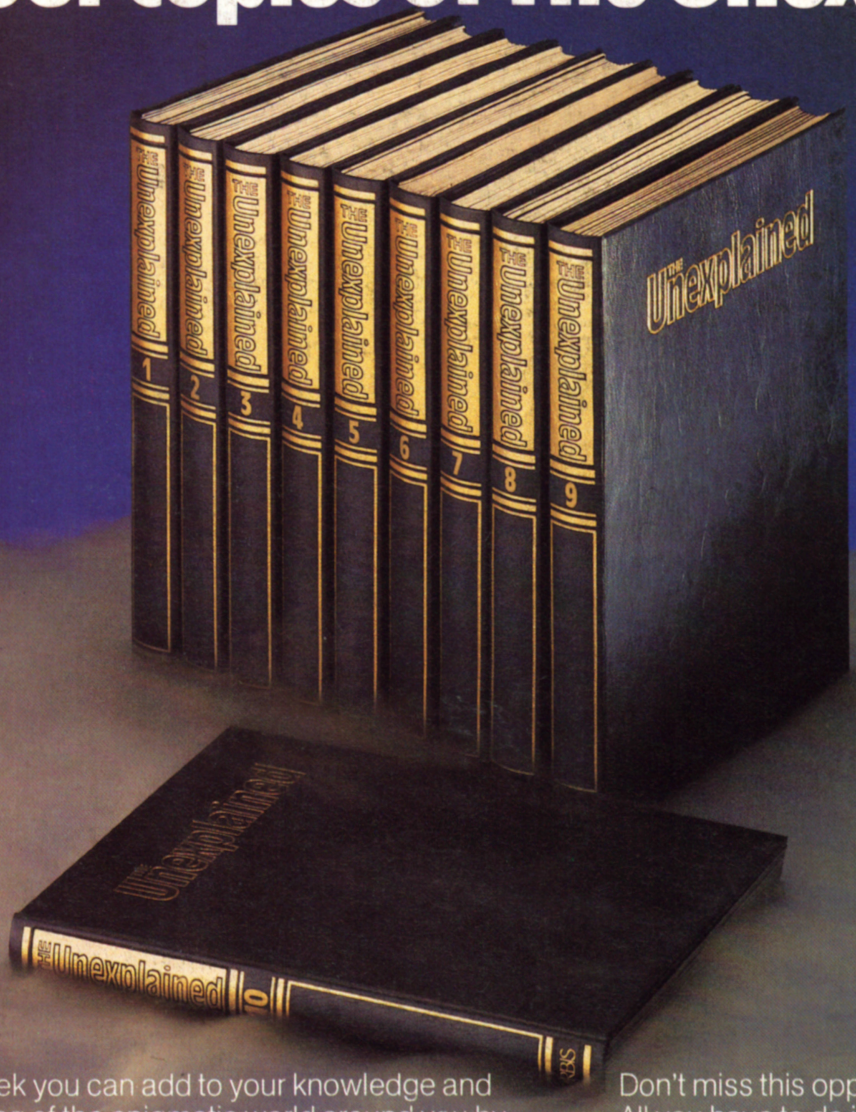

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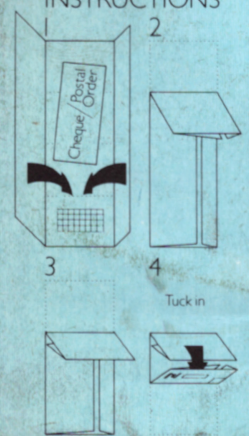

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